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BOSTON TOMORROW

DRAFT DEVELOPMENT POLICIES



Boston Redevelopment Authority

JANUARY 1984

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BOSTON TOMORROW: PROPOSED DEVELOPMENT POLICIES

INTRODUCTION

Last year more dollars were invested on a per capita basis for urban development in Boston than in any other city in the country, and substantial investment is expected to continue throughout this decade. This urban growth and change... symbolizes a strong local economy, with a growing job base and relatively low unemployment.

If economic growth in Boston continues throughout the decade, development required to meet future needs could dramatically alter the cityscape. Expansion within the office sector alone could initiate the construction of eight buildings the size of Sixty State Street between 1985 and 1992; this is in addition to over six million square feet of office space scheduled for completion by 1987.

Such rapid growth raises anew -- and with greater urgency -- questions about the relationship of future development to the urban design and quality of life in the city. How should Boston manage this growth to expand employment and housing opportunities, to improve the City's fiscal profile, and to maintain the city's unique character and quality of life?

"Boston Tomorrow: Issues of Development"

Answering that question is the purpose of "Boston Tomorrow", a three-phase project initiated by the Boston Redevelopment Authority (BRA). The first phase, culminated by the 1983 publication of "Issues of Development" and "Background on Development", documented the city's recent economic, demographic, and physical changes; forecast its economic and physical growth for the next decade; and given those trends and projections, outlined the development issues facing Boston.

To manage the projected growth and to deal with the issues identified, the BRA has formulated draft development policies which are presented here for discussion. The proposed general policies constitute the second phase of "Boston Tomorrow" and will serve as the framework for writing detailed development guidelines and regulations, the third phase of the project.

Each phase builds on the work of the previous one, becoming more specific in defining how growth should be managed. The following draft policies, the second phase product, are general statements derived from basic premises about what constitutes a humane urban environment, what qualities should be maintained or improved as growth takes place. Such apparently simple and universally agreeable statements make clear the basis for more specific development guidelines and will serve as points of reference should future guidelines require revision. Because the general policies are fundamental to the development guidance system, it is especially important that the final set have public agreement and support.

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Accompanying the proposed policies are descriptions of current methods of implementation or suggested ways to derive appropriate new guidelines. At this level, the deceptively simple and agreeable policies become more controversial. For example, while a consensus may exist to maintain sunlight in public open spaces, setting guidelines for the location, height, and bulk of development to enforce the sunlight policy could generate some controversy.

It will take time, money, and public input to generate detailed guidelines and to revise the development guidance process. Nonetheless, the policies alone can be useful in the interim, providing a clear and written statement on which to base development decisions. As well, some of the policies are currently in place and are administered by the BRA, the Boston Landmarks Commission, the Boston Water and Sewer Commission, and other local agencies. The source and strength of existing policies does vary: some are found in regulations and upheld by law, others are derived from planning

documents or from developers' kits for specific parcels and have gained acceptance through their frequent, but less formal, implementation. Their inclusion here can serve as public notice of the City's intent to enforce them.

In the third phase of "Boston Tomorrow", detailed guidelines for development will be formulated with input from the public, other local agencies, and technical advisors.

The intent is not to develop a master plan for the city, although some guidelines will pertain to specific locations. Rather, the aim of "Boston Tomorrow" is to clarify and arrive at public agreement on the basis for developing and maintaining the physical environment; to institutionalize agreed upon development policies; and to structure guidelines and a development guidance system which ensures compliance.

I. POLICIES FOR THE PUBLIC ENVIRONMENT

The first set of policies deals with the direct impacts of development on people in the public environment. Guidelines to implement these policies will be based on notions of performance: How understandable is the central city and what meaning does it convey? How well does the public environment fit common behavior and provide for human comfort? How easily can people reach their destinations?

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A SENSE OF PLACE AND TIME

Central Boston should be understandable and delightful for all its people, enlarging their sense of community, history, and nature. To that end, the following policies are proposed:

1. Maintain and strengthen district and neighborhood character.
2. Maintain the human scale of Boston.
3. Establish and maintain connections among parts of Central Boston and between Central Boston and outlying neighborhoods.
4. Preserve a sense of continuity with the past within a context that allows for change.
5. Encourage visible human activity along streets and street frontages, of a variety, intensity, and duration appropriate to its location.
6. Enhance Boston's natural and manmade geographic features, in particular the attractiveness and accessibility of the water's edge.

1. Maintain and strengthen district and neighborhood character.

Most districts and neighborhoods in the city have a recognizable and memorable character, determined by their history, cultural identity, landscape and architecture, and by activities located there. In concert, these factors can confer a strong sense of place and meaning. District character makes areas remarkable and coherent so that they serve as a basis for pride, affection, and a sense of continuity.

Guidelines should be prepared which will conserve or create the qualities of district character. They will necessarily deal with building height and bulk, with use mix, relation to the street, and the quality and pattern of open space. They will also be concerned with facade design, landscape and streetscape, surface materials, and views. To accomplish this, those areas will be identified which, through their scale, use, and character, are clearly recognized in people's minds. Guidelines will be based on the essential existing features that confer that particular sense of place. Areas of less distinct character will also be identified, and guidelines would be prepared to clarify or supercede the existing form of such areas, and thus to create a stronger sense of place. In both cases, analyses would be based on field inspection, on consultation with the people who use these areas, and on the knowledge of district character accumulated by the Landmarks Commission and the BRA staff.

2. Maintain the human scale of Boston.

Maintain and enhance those qualities often referred to as "human scale" which allow people to feel comfortable and not overwhelmed in the city.

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These qualities derive from the patterns of neighborhoods, blocks, buildings, and facades being broken down into sizes and shapes that feel familiar and to which people can relate.

The sense of human scale is an important aspect of a livable city and is apparent in a broad range of experiences from the forms and patterns perceived when arriving in the city to the details of architectural refinement perceived when entering a shopfront. In general, there should be no abrupt changes in building height and massing, and the scale of new development should reflect the predominant features of the surrounding area.

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As a means of ensuring human scale guidelines for streetscapes will be prepared regarding continuity of the street wall, the size and rhythm of buildings and spaces, and facade design and landscape elements such as lights, sidewalk furnishings, and paving patterns. Guidelines will be prepared for neighborhoods and for overall district organization with regard to building height and massing, patterns of open spaces and views.

3. Establish and maintain connections among parts of Central Boston and between Central Boston and outlying neighborhoods.

Along with its vivid character, the growth of Boston has produced some confusions and disconnections. It can be difficult to find some location, in imagination as well as in reality. It can be a puzzle to go from the Back Bay to the South End, for example, or to picture where the water goes as it passes from the Charles River into Boston Harbor. In some

places, neighborhoods have been cut off from the core by large development projects and highways. A sense of a connected whole is important for building a sense of community, as well as for personal orientation. Linking the elements of Central Boston and strengthening ties between downtown and its neighborhoods will require an analysis of the existing connections and a plan and guidelines for mending and extending these connections. Such a plan would employ such elements as new or clarified pedestrian and transit access, focal points, view corridors, and the extension of activity across barriers or "empty" areas. Much of this can be implemented as new development takes place.

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4. Preserve a sense of continuity with the past within a context that allows for change.

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Over time, economic, cultural and technological changes have altered the physical organization of the city. Nonetheless, much of Boston's form is still derived from earlier periods. Today the city is a collage of time, which gives Boston a special character and provides people with a sense of continuity between past and present. This special sense of time merits protection.

Several methods of implementing this policy are in place and additional ones could be created:

Landmarks and historic districts have been designated in Central Boston. The Boston Landmarks Commission has completed an inventory of structures and districts in the Central Business District and has identified those meriting preservation in some degree (approximately 33 percent of the

total buildings). Many of these have been designated or put under permanent stewardship through other mechanisms, and the process of designating additional buildings is ongoing. Finishing the inventory and evaluation for incomplete areas of Central Boston is essential. The system acknowledges that changes will occur, and permissible changes are outlined in some designation guidelines. However, there is a need for more specific guidance in advance of, rather than in response to, proposals for new development.

In addition to historic designation, there are other ways of communicating a sense of time. ~~New development could express the changing times by incorporating traces of former structures and uses, including urban design patterns, and architectural and landscape elements. Graphic and written descriptions of previous use would also be welcome. Predictable and imminent future changes, such as the location and design of new structures, could be conveyed with appropriate signs and symbols.~~

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5. Encourage visible human activity along the streets and street frontages, of a variety, intensity, and duration appropriate to its location.

The sight of other people and their activity is one of the enduring delights of the city. This policy could be implemented by guidelines such as the following:

- a. Require large development projects to include publicly-accessible activity on the ground floor and to make that activity visible from the street.

- b. Encourage housing downtown, as well as that of other uses which would make streets active over a greater span of the day.
- c. Encourage a range of street activity -- selling, performing, play, or resting. To ensure room for such activities, developers could be required to provide public open space and improvements for public spaces. Public projects, such as street closings, could add to the inventory and variety of such spaces. New techniques for open space management could be instituted.

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This policy is currently implemented by the BRA in its review of development proposals and plans for specific areas such as Downtown Crossing. It could be more effective if it were based on a survey of street fronts and street activity, its timing and seasonal variation, and an inventory of those streets where additional activity would be welcome.

6. Enhance Boston's natural and manmade geographic features, in particular the attractiveness and accessibility of the water's edge.

The topography and river and harborfront are the basis of Boston's urban form. The overall massing and patterns of development and the park system fit upon this base to create the city's special geography. The edge of the Boston's peninsula is its prime natural asset and its most visible geographic feature. From this vantage point, one can see the city in its setting; enjoy sky, sun, and water; and participate in waterside activities.

The BRA mandates public access to the waterfront in its development projects, implementing policies and recommendations for its 1980 study of the waterfront. A truly effective policy would require an updated study of the present use and accessibility of the entire water's edge; an analysis of potential access and its difficulties; and an assessment of ways to promote appropriate water-related and water-dependent uses. Public and private actions should make it possible to walk along the water's edge without hindrance and to approach it at frequent intervals from nearby public ways; should ensure that there are frequent views out to the water; and encourage attractive public uses to locate there, along with water-dependent uses which are open to public view.

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PUBLIC SAFETY, HEALTH, AND COMFORT

It is the public purpose that Central Boston be fit for the people who use it, allowing them to conduct their activities safely and in good health and comfort.

To that end, the following policies are proposed:

1. Ensure sunlight in public ways and spaces, and adequate daylight and frequent views of the sky along most city streets.
2. Prevent heavy winds in public areas, but ensure that light prevailing winds and sea breezes are not blocked.
3. Prohibit undue noise in the public environment.
4. Reduce air pollution, particularly that generated by construction activity and vehicular traffic.
5. Ensure that the public environment provides adequate seating, shelter from wind and rain, and toilet facilities.
6. Enhance the existing open spaces and create new ones.
7. Ensure that the public ways and open spaces are safe.

1. Ensure sunlight in the public ways and spaces, and adequate daylight and views of the sky along the city streets.

- a. Sunlight

Sunlight is key to the use of public ways and spaces. To maintain sunlight in public open spaces, a guideline could stipulate that no new building or addition cast a shadow onto public open spaces during certain seasons, at the times of day when those open spaces are most heavily used. For example, a general rule might prevent the blocking of sunlight in public spaces during the middle hours of

the day at the spring and fall equinox. Alternatively, more detailed rules for different hours and seasons might be based on the actual use, size, and situation of particular public spaces.

In either case, the sunlight guidelines will be based on a study of the existing conditions of sun and shadow in public open spaces, on the use of the space, and on how those sunlight conditions affect that use. In addition, the consequences of the guideline on development must be analyzed.

b. Daylight

Ensuring the presence of sunlight along all the narrow, winding streets of Boston, however desirable, would be impractical. Nonetheless, it is important to maintain adequate daylight and views of the sky.

One possible guideline which would protect daylight on the streets without imposing rigid controls on architectural design could be stated as follows: If any part of a new building were to have an angle of elevation, as seen from the opposite sidewalk, which was greater than some standard angle, then that piece of the sky dome which was blocked above the standard angle would have to be replaced by at least an equal area of visible sky below the standard angle by means of a setting back or a lowering of other portions of the building.

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The standard angle could vary by district to reflect predominant and desirable building heights and street widths. Determining the appropriate standard angle will require a study of the influence of adjacent building heights on light levels, as well as analyses of the impacts of various angles on building form and the character of the streetscape.

2. Prevent heavy winds in public areas but ensure that light prevailing winds and sea breezes are not blocked out.

a. Winds

Boston is one of the windiest cities in the country, and the ill effects of its strong winds are made worse in locations where tall buildings create gale force gusts at the street level. Moreover, dense concentrations of large buildings can convert narrow streets into wind tunnels. The effect is not only unpleasant, but can be dangerous for the elderly and infirm.

Standards exist for regulating the wind impacts of development: A commonly accepted limit for winds in pedestrian areas is that the "equivalent speed" of the wind (an equivalent which allows for variable gusts) should not exceed 35 mph more than 0.1 percent of the time or about ten hours in the year. This is a safety rule. Additional limits could be set to ensure comfort in public seating areas. Once guidelines are agreed upon, it is important to determine what projects must comply. Because wind tunnel tests are expensive, time-consuming, and must be repeated each time a

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design is modified, it is desirable to give advance guidance to designers and to set a threshold of height or location which would trigger the need for wind tunnel tests. Formulating the guidelines and implementation methods will require the advice of wind experts.

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b. Light Prevailing Winds and Sea Breezes

It is important to minimize strong winds on city streets, but it is also important to enhance the flow of light prevailing winds and sea breezes which have a cooling effect in hot weather and which prevent the accumulation of air pollution.

The effects of development on air flow can to some degree be predicted from the location, massing, and height of buildings.

Specific guidelines to maintain air circulation will be based on a study of the influence on air flow of existing air channels and the urban geometry of Boston.

3. Prohibit undue noise in the public environment.

Daily transportation, commercial, and industrial activities all generate background noise. Occasional activities, such as air traffic, heavy trucks and construction work, create intermittent louder noise. Both sorts of noise can be irritating and depending on their volume and frequency, can damage hearing.

Boston's Air Pollution Control Commission has established a comprehensive set of regulations concerned with the generation of noise by various uses, vehicles, equipment, and construction operations. The rules vary

according to the time of day and the location. For the most part, the rules set acceptable noise levels at specified distances from the source of the noise, and in some instances they are stated in terms of what percent of the time noise can exceed those limits. The rules are based on generally accepted national standards backed by substantial research. Compliance with the rules can be objectively measured.

Thus the problem with regulating noise is enforcement, and not the lack of well-formulated rules. A commitment to reducing noise levels will require an administrative budget that will support an adequate staff to monitor noise and enforce the existing regulations.

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4. Reduce air pollution, particularly that generated by construction activity and vehicular traffic.

Air pollution is a principal health hazard in cities, and its serious effects are well known. Traffic generates approximately 70 percent of the hydrocarbon emissions and 90 percent of the carbon monoxide emissions in metropolitan Boston. For both types of emissions, Boston's air quality exceeds federally acceptable levels.

There are two primary means of controlling pollution by vehicles: reducing the emissions from individual vehicles and reducing the number of vehicular trips or the times that engines are idling. The City has greater control over the latter source of pollution. The policies and guidelines suggested in the Access section of this document and which are aimed at congestion are reinforced by the need for clean air.

In addition, the policies suggested for maintaining open channels for prevailing breezes in the city have the intent of protecting air quality through the dispersal of pollutants. Construction operations are dealt with directly by city regulation, which require that the release of dust and fumes be minimized by well-established procedures of wetting and storing materials.

5. Ensure that the public environment provides adequate seating, shelter from wind and rain, and toilet facilities.

Some simple conveniences are needed in public places: it should be possible to sit down when tired, to take temporary shelter from the wind or rain, and to find a clean, safe public toilet. Detailed guidelines could provide criteria for the amount and design of seating that should be provided, based on the anticipated use of an area. Temporary shelters should be available at transit stops and at some reasonable intervals in heavily used areas. The form of the shelters can vary from deep doorways to awnings and arcades. More specific guidance about the provision of shelter would be based on a study of existing shelters to determine the characteristics worth replicating. Clean, supervised toilets should be easy to find downtown.

While criteria for the design and location of public amenities may be relatively simple to define, the provision and maintenance of the amenities is a more controversial issue, particularly the provision of public toilets. Thresholds could be set to determine what level of amenities would be required of various size projects, and what is best provided by public actions.

6. Enhance existing open spaces and create new ones.

Boston's public open spaces, ranging from the Common to Angell Memorial Park in Post Office Square, are universally enjoyed as places to rest, to play, or simply to observe in passing. Some areas are bereft of such space, and the existing parks need better maintenance.

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Implementing the open space policy will require guidelines for open space acquisition, including opportunities for creating them out of existing public rights-of-way. Guidelines must be founded on a study of the present distribution and use of open space, and how use is affected by design and by accessibility. In particular, the working and resident population of the central area should be consulted. The study would identify areas where public open space is needed most. Design guidelines concerning materials, form, light and sun, wind, vistas, maintenance, and other open space qualities would be prepared.

Implementing the policy will also require new administrative devices for maintaining, enhancing, and creating public open spaces, including ways to coordinate public and private responsibility for those functions. When new development would significantly increase to the population of an area, for instance, the developer could be asked to provide funds for public open space. Boston is familiar with innovative management on a project by project basis, as evidenced by the process to redesign Copley Square, and by the management techniques for Downtown Crossing. Such processes could be extended to improve parks city-wide.

7. Ensure that the public ways and open spaces are safe.

- a. The design of ways and spaces and the buildings which border them can help to discourage crime in the streets and to give people a greater sense of security. Adequate lighting, secure footing, no hidden spots, and a sense of "eyes on the street" from storefronts and upper floor windows contribute to safety. Forms and materials can clarify circulation routes and can define the public, semi-public, and private realms, adding to the self-policing of areas. Round-the-clock activity, and the programming, maintenance, and direct and indirect surveillance of public ways and spaces also enhance security.

Implementing this policy will require guidelines for the design and administration of public areas for visible activity and for the design of the street wall.

- b. Conflict between vehicles and people on foot is another major urban danger. Creating pedestrian zones, such as Downtown Crossing, is one strategy to ensure the safety of pedestrians. Other strategies include restrictions on the number and location of curb cuts, design controls for parking ramps and truck loading areas, and traffic management plans which direct heavy traffic away from residential areas and minor streets. Special pavement treatments and pedestrian signals at crosswalks help to protect pedestrians. The location of building entrances affects pedestrian safety, particularly in areas with heavy traffic. For some of these methods, specific rules can

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be written and compliance easily measured. For others, general guidelines can be written and the means of meeting them left more flexible. In all cases, the safety and comfort of the pedestrian must be given priority.

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The activities and facilities of Central Boston should be accessible to people who visit, live, and work in the city. To that end, the following policies are proposed:

1. Relate the density of development in any area to the access capacity of that locality.
2. Minimize vehicular traffic and congestion.
3. Improve access by public transit.
4. Make pedestrian access easy, direct, and inviting.
5. Facilitate access for bicyclists.

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1. Relate the density of development in any area to the access capacity of that locality.

Physical access to and within the city is affected by the conditions and capacity of the streets, parking facilities, walkways, public transportation, and by the location and density of activity relative to the different modes of access. The number of people coming and going in some areas downtown has surpassed the capacity of the various circulation systems. Guidelines are needed which relate the density of development in any area to its access capacity, while giving priority to transit access and ensuring that the Central Business District remains the continuously active core area. Large projects should be built in areas convenient to public transit and expressways to avoid circuitous routing of vehicles via local streets. Implementing such a guideline will require analysis of the

variables which determine the access capacity of an area, how densities should relate to these capacities, and what the desirable form of Central Boston might be.

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2. Minimize vehicular traffic and congestion.

While the basic premise of the access policy is to make it easier to get to and move about Central Boston, making vehicular access easier would create a contradiction: The more smoothly automobile traffic flows, the more people will choose to travel by car. Any increase in vehicular traffic will only exacerbate the existing problems of pedestrian safety and air pollution. Hence, access policies are intended to minimize congestion, but by substituting for travel by car rather than promoting it.

Implementing this policy would focus on the following:

- a. A proposed amendment to the Zoning Code would require developers of projects over 100,000 square feet and which require a variance, conditional use permit, exception, or zoning map amendment to formulate an access plan. Prior to development, the plan would estimate the traffic impacts of a project and would specify measures for minimizing vehicular person-trips. The plan would set targets for the number of daily commuter trips, which would be monitored in a post-development access plan.
- b. Controlling parking is a second means of reducing traffic and congestion. Restricting the number of parking spaces downtown is a strategy employed by the Boston Air Pollution Control Commission. The restriction, imposed in 1975, currently is being reassessed.

Some methods for allocating scarce parking and street space are already in use: non-residential parking in neighborhoods is discouraged; parking is reserved for the handicapped; and curb space is set aside for buses and taxis. Guidelines could set priorities for the allocation of spaces within parking garages so that commuting to work by car, especially with only one person per vehicle, would be discouraged. Employee parking adds significantly to peak-hour congestion and air pollution at times of day when transit service is most frequent. The proposed access plan requirement would include strategies to allocate scarce parking.

In addition, the location and form of parking facilities can help to minimize congestion. When parking structures are designed with efficient internal circulation and fee payment systems, queuing is minimized. As well, careful siting of entrances and egresses cuts down on traffic jams. Peripheral parking convenient to expressways and arterials reduces traffic in the center. The Boston Air Pollution Control Commission (BAPCC) has established criteria for the location and form of parking facilities which serves as the basis of their review of parking proposals.

- c. The policies for improving public transit outlined below should also help reduce vehicular traffic.

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3. Improve access by public transit.

Public transit remains a primary mode of travel to and within Boston. Unfortunately, the system (and its riders) suffer from old equipment and scheduling problems. As Central Boston developers, some aspects of the system could be improved and the use of transit could be increased.

To that end:

- a. Major development projects should be located in areas convenient to transit, as noted in the first access policy.
- b. Transit improvements, including new stations, ferry terminals, and pedestrian connections, should be integrated into large development projects. A general guideline to that effect is frequently made part of development review. In some instances, more specific advance guidance could be offered, based on a study of the need for new transit stops, stations, and terminals.
- c. It may also be possible to restrict certain streets to transit vehicles, or to transit and taxis only.

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4. Make pedestrian access easy, direct, and inviting.

Boston is a city for walking. The compactness of the central area, the design of streets and pedestrian ways, and the difficulties of driving encourage people to travel by foot. Walking could be made more pleasurable. Actions to improve pedestrian access will include the following:

- a. Sidewalks should be designed to accommodate the anticipated volume of foot traffic, with minimal obstacles to pedestrian flow, adequate space to wait at crossings and corners, and no barriers for the handicapped, the elderly, or people transporting children or goods. Some general standards exist for sidewalk design, and they could form the basis for guidelines for pedestrian access. However, guidelines should reflect the anticipated volume of foot traffic and the character of specific areas.
- b. The pedestrian network should be strengthened. This would require a study of the existing pedestrian network and a plan for establishing critical connections that currently are missing. As part of this effort, additional pedestrian streets could be designated. Guidelines will be developed to improve the design of pedestrian ways and adjacent open spaces and to make the routes more legible.

5. Facilitate access for bicyclists.

Despite the obstacles presented by Boston's streets, a number of people regularly commute by bicycle. Their ranks could grow. The barriers which currently deter would-be riders include conflicts with vehicles, unsafe pavements, and the lack of cycle parking facilities. Some of the problems can be resolved easily and for relatively little cost; others will require time and substantial investment.

- a. Secure parking facilities should be provided ~~at all major buildings.~~
Standards could be set to specify the number of spaces required based on the potential volume of use.

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- b. Given the narrow streets and limited space available for cars and pedestrians downtown, creating separate lanes for bicyclists is seldom feasible. However, major changes in the road network, such as the proposed Central Artery depression, present opportunities to develop safe bicycle routes. Standards for bike lanes should be developed in consultation with bicyclists and should be incorporated in the design of specific large-scale projects.

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II. HOUSING POLICIES

The second set of policies is concerned with the provision of decent, affordable housing, a critical factor in people's ability and desire to live in Boston.

There should be sufficient housing in Central Boston, affordable for people of varying incomes. To that end, the following policies are stated:

1. Encourage the expansion of housing in Central Boston.
2. Encourage the development of housing for low and moderate income residents.
3. Discourage the displacement of residents from their neighborhoods.

1. Encourage the expansion of housing in Central Boston.

The demand for residential units in Central Boston has increased beyond the market's ability to provide new housing. The disparity between supply and demand is projected to increase in the coming decade with the loss of federal subsidies for residential development. While in the past federal programs have aided the economic competitiveness of residential development, the private market will be less capable of providing new housing units without these financial and programmatic supports. The city must therefore continue to seek alternative mechanisms, such as the following, for maximizing opportunities for residential development.

- o Promote the development of new residential buildings and mixed-use projects with residential units through careful review of development proposals and inclusion of requirements for housing on

publicly-owned sites where appropriate. In addition, continue to use the disposition process and urban renewal plans to support housing development through the requirement of linkage fees.

- o Encourage the adaptive reuse of vacant, underutilized, and obsolete buildings and land parcels for residential use.
- o Rehabilitate the City's abandoned housing stock to provide safe and decent housing.

2. Encourage development of housing for low and moderate income residents.

Some residential development projects now under construction will include subsidized dwelling units, but current federal housing policy will vastly reduce housing opportunities for low and moderate income residents during the next decade. In those parts of Central Boston where residential developers face stiff competition from commercial and institutional developers for limited real estate, prospects for affordable housing are especially bleak.

To expand the supply of below market rate housing, the City has instituted several financial mechanisms which support housing construction and rehabilitation:

- o The Neighborhood Development Fund (NDF), which receives its revenues from Urban Development Action Grants (UDAG) loan repayments, supports projects which meet established priorities to provide below market rate housing. Housing, commercial, indus-

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trial, and mixed-use proposals are all eligible recipients for NDF awards, but a minimum of 60 percent of the loans will be made for housing. During the first five years, repayment of the Copley Place UDAG will be totally reinvested in housing which would enable low- and moderate-income people to continue to live with affordable rents in the Copley Place Impact Area.

- o The recently enacted Linkage Zoning Amendment, passed by the City Council and Zoning Commission, requires developers of large scale office, retail, institutional and hotel developments city-wide to contribute to a Neighborhood Housing Trust Fund. These Housing Payment Exactions will be used to build and rehabilitate affordable housing. Alternatively under this law, developers of commercial projects may elect to construct low and moderate income housing.
- o Through development review and the disposition of publicly owned property, the BRA reduces the costs of site acquisition for projects which include below market rate housing.
- o In development review and the disposition of public property, development proposals which include provisions for limited equity home ownership for moderate income residents, are encouraged.

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3. Discourage the displacement of residents from their neighborhoods.

Although change and residential mobility are natural phenomena in neighborhoods, inflation, housing rehabilitation, and conversion of rental

units to owner-occupied housing often force residents to move involuntarily. Many residents have limited options when threatened with displacement.

By discouraging the demolition of housing and the conversion of rental units to owner-occupied housing, and by minimizing institutional encroachment, and placing controls on the BRA seeks to protect the existing housing supply, maintain neighborhood stability, and minimize displacement. Current BRA guidelines for projects within its jurisdiction which should be continued, include:

- o Development proposals that would displace residents without providing alternative housing options should be rejected. Developers are required to provide relocation benefits to tenants displaced by rehabilitation or condominium conversion.
- o Relocation benefits and assistance are enforced and monitored as required of developers holding Chapter 121 Agreements.
- o Institutional development proposals should provide for the additional housing needs generated by the proposed expansion. The potential impact of institutional expansion on adjacent neighborhoods should be considered, and shared use of facilities to mitigate adverse impacts should be encouraged.

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III. POLICIES FOR TECHNICAL FACTORS

The third set of policies deals with factors that have less immediate impacts on people's daily experience of the city but are nonetheless significant for the long-term viability and efficiency of the physical environment.

ENERGY

1. Maximize the efficient use of energy resources

The city depends heavily on imported fossil fuels to heat homes and to meet the operational, climate-control, production, and transportation needs of all sectors of the local economy. Energy costs per unit of fuel are high in the Northeast, and Boston's dependence on imported fossil fuels should be reduced. While the City cannot control all factors affecting energy supply and demand, it can promote energy efficiency through controls on development. However, because energy technologies and the economics of energy change rapidly, the guidelines must be broadly stated to allow for innovation, changes in the marketplace and in regulations made by the state and federal governments.

Building design and site plans for proposed developments should maximize energy efficiency. To that end, guidelines which relate siting, massing, fenestration design, and other details to energy consumption could be used in the design review process. However, given the necessity of balancing design guidelines which are based on other considerations and given the numerous ways of achieving energy savings, the energy design guidelines may serve as suggestions rather than rules.

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Developers would be allowed flexibility in determining how best to conserve energy, but they would be required to assess the anticipated energy performance and to provide life-cycle cost estimates of proposed projects.

To conserve fossil fuels, the City could promote the use of renewable energy sources; energy storage, recovery or management systems; or other appropriate means. In developing plans for large areas of Central Boston, such as North Station or Fort Point Channel, options for energy-efficient systems could be investigated. Where possible, solar access should be protected. An amendment to the Zoning Code will be recommended, protecting solar access in S-1 zones.

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GROUNDWATER.

1. Maintain groundwater at a level adequate to protect the structural integrity of buildings.

Major portions of downtown Boston have been developed on land that was created by filling in low lying marsh areas and segments of Boston Harbor. Construction on the loosely consolidated fill has required the use of piles to support structures. In order to preserve wooden piles from rotting and prevent subsidence or lowering of the soils surrounding the piles, the water table must be maintained at an adequate level. This level in Boston is typically +6 feet to +7 feet (Boston City Base).

Periodic lowerings of groundwater levels in the Back Bay area of Boston have occurred over the past several decades. In 1929 portions of the Boston Public Library began sinking and walls began to crack due to exposed, rotting piles. In the 1980's this problem has resurfaced and

the Boston Redevelopment Authority has retained the services of a geotechnical engineering firm to study the problem. The study will analyze the causes of the lowering of the groundwater, identify particular problem areas, and make recommendations for action to remedy existing problems and prevent lowering of the water table in the future.

The groundwater study should be completed by the summer of 1984. Depending on the specific causes of the problems and recommended solutions, guidelines concerning construction, dewatering, storm drainage and recharging of groundwater will be implemented through appropriate building codes, ordinances, or legislative mechanisms.

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WATER QUALITY

1. Improve the water quality in Boston Harbor and the Charles River.

The improvement and maintenance of water quality in Boston Harbor is dependent on better treatment of wastewater entering the Harbor through the sewerage system, reductions in the volume of wastewater entering the system, treatment and control of storm drainage that directly enters the Harbor, and limits on land fill operations. While substantial improvement in water quality requires increased funding from the state and federal governments and major actions by the Metropolitan District Commission, there are also steps the City can take.

- a. Through appropriate building codes and other regulations, a general reduction in the volume of sanitary sewerage and storm drainage could be achieved by the following requirements:

- o Use of porous paving where appropriate;
 - o Use of low flow devices in showers and faucets and toilets in all residential and hotel developments;
 - o Recharging groundwater with storm drainage where feasible.
- b. The following requirements would minimize pollution that accompanies storm drainage:
- o Storm drainage from all parking lots and garage should have oil traps that must be cleaned and maintained;
 - o There must be adequate erosion control--including ground vegetation, adequate sloping and retaining walls--during and after construction of projects along the water's edge;
 - o Storm drainage from waterfront projects should be treated for solids and oil removal.
- c. Major new developments that would overcapacitate the sewerage system in a particular area or exacerbate an existing combined sewer overflow should provide a sewerage holding tank or on-site or point source treatment of sewerage. Within the East Side Interceptor area, holding tanks are already required by the Boston and Water Commission. However, on-site or point source treatment would place less burden on the sewerage system and on the water quality. Developers of waterfront property could be allowed to install point source treatment systems as an alternative to holding tanks.

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- d. Filling in Boston Harbor should be prohibited except where necessary for public health and safety reasons.



IV. ECONOMIC DEVELOPMENT POLICIES

The final set of policies is aimed at expanding employment opportunities, ensuring the availability of a range of goods and services, maintaining a vital and diversified economy, and improving the City's fiscal profile. This set of statements represents current development policies and is derived from guidance offered in plans, policy statements, regulations, and the review of development proposals.

JOBS

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1. Facilitate access to employment in Central Boston, ensuring in particular that a range of job opportunities are available to Boston residents.
 - a. Public assistance for development projects provides the City with the leverage to improve job opportunities for people who are under-represented in Boston's work force.
 - o Projects receiving City assistance must adhere to the 1979 Mayoral Executive Order which established a resident employment program. During project construction, the work force must be 50 percent Boston residents, 25 percent minorities, and 10 percent women. To ensure permanent employment opportunities, the City recently instituted a permanent jobs monitoring plan. New permanent jobs expected to be created as a result of any City-assisted construction project and to exist for two years beyond the project completion will be

incorporated into an Employment Initiative Agreement. Assisted projects must develop hiring goals. City-wide targeted goals recommended by the Neighborhood Development and Employment Agency are 50 percent Boston residents, 50 percent women, 30 percent minorities. Adjustments and additions (such as provisions for neighborhood residents, handicapped people, or trainees) to the goals are negotiable, depending on the type of jobs or location of the project.

- o Projects receiving State and Federal assistance are required to conform with affirmative action plans. Compliance is monitored by the City.
- b. Increasing the number of jobs and maintaining the diversity of employment opportunities are goals which underlie many of the City's development strategies. Of particular concern is the need to protect existing manufacturing jobs and create new ones at a time when manufacturers find it difficult to compete for space downtown. They are being displaced from traditional industrial areas such as the Leather District, Chinatown, North Station, and Fort Point Channel. In addition, it is important to attract firms in the high growth industries to the city. Employment growth in these sectors, which capitalize on Boston's medical and educational institutions and their work force, is projected to continue and could offset slight declines in some traditional sectors.

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- o Through development review, the BRA discourages the demolition or conversion of industrial buildings and the granting of zoning variances where manufacturing is important to the economic health of a neighborhood. Area-wide planning and development review for the South End and Fort Point Channel, in particular, is aimed at maintaining industrial activity.
- o In conjunction with EDIC, the BRA helps to develop industrial facilities suitable for displaced, expanding, and new firms. The establishment of an Enterprise Zone would assist in this effort.
- o Firms that receive real estate or financial assistance from the City are required to develop goals for resident hiring.
- o If a proposed development would displace a significant number of manufacturing jobs, the City could require that a developer submit a relocation strategy for BRA and EDIC approval, and/or reserve space in the new project for manufacturing.

LAND USE

1. Ensure that a wide range of goods and services, facilities, and public attractions are available in Central Boston.

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2. Direct the development to revitalize parts of Central Boston, to improve the quality of the public environment, and to benefit residents of the city.

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The general land use policies, 1 and 2 above, underlie the more specific guidance for particular land use activities which follows. Unlike the policy statements and guidance described in other sections of the general policy proposal, some of the land use guidance is locational. The information on which the general locational policies is based will be incorporated in the phase three studies on density and district character.

In some other respects, the land use guidance overlaps with the general policies proposed for the public environment. However, some policies or methods of implementation vary by use. The guidance offered to office developers, for instance, differs in some respects from that offered to institutions. As noted in "Boston Tomorrow: Issues of Development", development of each sector presents some distinctive problems and opportunities that should be accounted for in development guidelines.

1. Ensure that wide range of goods and services, facilities, and public attractions are available in Central Boston.

In some underutilized areas of Boston, mixed-use development which would extend the range of activities available or establish complementary activities is needed. In addition, where market forces are strong, protecting the existing mix of uses is important. For example, residential, retail, and industrial activities typically are not able to outbid

institutional and office developers for downtown property. Through development review and area planning, the BRA seeks to increase and/or maintain access to a range of uses:

- o To increase activity and the mix of uses in an area, office developers are required to include retailing and other, publicly-oriented activities on the ground floor of new and renovated buildings but only to the extent that the retail development would not dilute the strength of established retail districts or conflict with the residential character of neighborhoods. The type of publicly-oriented activities may vary by location. In the Theater District, for example, appropriate uses include entertainment facilities and restaurants which increase evening activity. Along the Essex Street corridor, retail activity and housing which support the goals of the Downtown Crossing Economic Strategy Plan are desirable. In the Fort Point Channel Area, a broad mix of office, residential, hotel and industrial uses is appropriate.

2. Direct development to revitalize parts of Central Boston, to improve the quality of the public environment, and to benefit residents of the city.

- a. The office sector has assumed a leading role in the creation of new employment in Boston during the past twenty years, and the expansion of the office sector has fostered much of the city's recent development. It is projected that office employment will increase by 34,000 jobs over the next ten years, generating demand for an additional thirteen million square feet of office space between 1982

and 1992. Office development has supported major renewal efforts in parts of Central Boston. Given the growth projections for the office sector over the next ten years, office development can continue to reinforce the City's revitalization plans which include directing development to Essex Street Corridor, Fort Point Channel, North Station, and Boylston Street in Back Bay. In studies to develop guidelines for district character and density, particular attention will be given to the capacity of these areas to support growth and to the qualities that should be maintained as it takes place.

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- b. Boston's image nationally and globally is closely tied to its pre-eminence in education and medicine. In turn, these fields have had a positive affect on the local economy and produced jobs for Boston residents. Institutions have also helped to expand the economy of the Boston metropolitan area and have been integral to the regional growth in high technology and bio-medicine. This latter field is expected to become a major growth sector in the 1980s and 1990s in Boston. In recent years, the expanding needs of medical and educational institutions have generated a number of major development projects.

Not all of this growth, however, has been beneficial to the city: In addition to removing property from the tax rolls, some institutional expansion has displaced long-term residents. Where institutional development has not been well-coordinated with the City and its neighborhoods or with other institutions, opportunities to improve existing conditions have diminished.

- o To minimize the adverse fiscal impacts of institutional development, the City requires in-lieu-of-tax payments from institutions when approving plans for expansion. The City also encourages institutions to incorporate taxable uses, such as retail shops, in their development plans.

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- o Some educational and medical institutions provide services and programs which directly benefit Boston residents. These offerings include scholarships, access to recreational facilities, free medical care, and outreach social and medical programs. However, the services and programs are not widely available.

To strengthen ties between institutions and Boston's neighborhoods and ensure that institutional growth benefits city residents, the provision of services and programs is formalized via Cooperation Agreements with institutions. Existing Agreements are updated when institutions require the City's approval of development plans. The nature of Cooperation Agreements varies according to the size and type of institution. In addition to services and programs now in existence, Agreements might provide plans for hiring Boston residents, for purchasing supplies from local firms, for developing housing in adjacent areas.

- o In the past, institutional planning frequently has been conducted in a piece-meal fashion and has missed opportunities to improve both the institutional complexes and adjacent neighbor-

hoods. For this reason, the City requires each institution to place development proposals within the context of overall physical plan for that institution. In development review, plans which do not include adequate evaluations of the overall impacts of development on adjoining neighborhoods, are disapproved.

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Planning coordinated among the institutions themselves could lead to more substantial benefits for individual institutions and minimize their need to acquire additional properties for expansion. This coordination would be beneficial because as universities and hospitals compete for students and funding, each tends to build the largest and most up to date facilities with little thought to collaborative use among institutions. Duplication of facilities often results in the unnecessary use of land and capital. Institutions have developed some projects jointly, especially in the Longwood Medical Area, and this practice should become more common. Through development review, institutional development proposals which would lead to the consolidation and/or shared use of facilities are encouraged.

- o Institutional developers are encouraged to incorporate uses into their development -- such as stores, day care centers, and housing -- which enliven institutional areas and serve the needs of people living and working in the vicinity. Requiring institutional master plans, as noted in Land Use Policy 2, helps to identify such opportunities.

- c. The development of retail magnets, including department stores, festival marketplaces, and cultural and tourist attractions, is encouraged in order to expand Central Boston's role as a regional shopping center.

However, each of the three major retail centers--Downtown Crossing, Back Bay, and Faneuil Hall Marketplace--has a distinctive nature and appeal which should be maintained. Additional retail development should reflect or enhance the unique character of its district, without detracting from the appeal of the other retail centers in Central Boston.

"The Downtown Crossing Economic Strategy Plan" has identified appropriate locations, such as Hayward Place and Bedford Crescent/Church Green, for large-scale retail development. In Back Bay, the development of specialty stores is preferred, rather than that of general department stores. In the vicinity of Faneuil Hall Marketplace, retail development which is compatible with the entertainment/festival marketplace atmosphere is preferred.

- d. Over half the manufacturers and over half the manufacturing jobs in the city are concentrated in Central Boston, especially in the Downtown and Fort Point Channel area. Some manufacturers have chosen Central Boston locations to be near major customers and skilled workers. Today, however, industries are faced with competition for space from commercial, office, and institutional developers, and they are being displaced from such areas as the

Leather District, Chinatown, North Station, and Fort Point Channel. Through development review and zoning, the City can discourage industrial displacement to a limited extent. Seeking solutions in a city-wide context, the City can assist firms to move to other appropriate locations.

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- o Through development review, the City has discouraged the conversion of industrial buildings and the granting of zoning variances where manufacturing is important to the economic health of a neighborhood.

- o In areawide planning and through development review and the disposition of public property, the City has directed new development away from significant industrial locations. Development planning for South End and Fort Point Channel should provide for ongoing manufacturing uses.

- o In cases where it is not possible to retain manufacturing downtown, the Economic Development and Industrial Corporation (EDIC) assists displaced firms to relocate to other neighborhoods and has developed industrial facilities suitable for them.

Though the traditional manufacturing sectors -- food products, apparel and leather, printing and publishing, fabricated metals, and non-electrical machinery -- remain the five largest in Boston, high growth sectors -- instruments, electrical equipment, transportation equipment, chemical products, and rubber and plastic products --

have assumed more prominence since 1975 than they held in the past. Their presence is important to the labor force in Central Boston and to the development of downtown: Employment growth in these sectors, which capitalize upon Boston's medical and educational institutions and their labor force, is projected to continue and to offset slight declines in some of the traditional sectors. For some of the growing high-technology firms, Central Boston is a viable location, as Teradyne's expansion and the construction of facilities for Digital and Wang illustrate. To encourage the expansion of existing firms and attract new firms, particularly those which have strong ties to other sectors located in Central Boston and to the labor force in the area, the City has developed industrial space, assisted firms to find financial support, and facilitated industrial development proposals. In addition, State legislation is proposed to establish an Enterprise Zone in Central Boston. All these strategies will be incorporated in the detailed guidelines for development.

- e. Boston's visitor-related sectors -- its convention, tourist, and hotel industries -- add to the vitality of the city and the strength of the local economy. Their strength is linked closely to that of other economic sectors and to public development projects. With the recent and projected growth in the office sector, improvements to the Waterfront and Theatre District, and the anticipated expansion of the Hynes Auditorium, visitor-related industries have the potential for expanding in the next ten years.

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- o Boston's success in attracting national and regional meetings and public events depends primarily on the availability and quality of its gate show, convention, and arena facilities. With the development of Bayside Mall and Boscom, the city will be better equipped to draw trade shows than conventions. An enlarged Hynes Auditorium is needed to provide more competitive national convention facilities. In addition, the arena facilities in Boston are inadequate for accommodating many of the sports and gate show events which are now or could be attracted to the city. The City supports the timely expansion of the Hynes Auditorium and the development of an improved arena. As part of its planning activities, the BRA continues to work with the Massachusetts Convention Center Authority (MCAA), Prudential Insurance Company, and neighborhood groups on plans to expand the Hynes Auditorium. Currently, the BRA is working with MCAA and their consultant who will undertake a feasibility study for improving arena facilities.

- o Improvements in the Theater District, along the waterfront, and to numerous cultural facilities have reinforced Boston's role as a regional center for tourism. However, the growth of tourism in Boston is constrained by the limited supply of moderately priced hotel rooms. Unless this situation changes, the restricted supply of moderately-priced rooms is likely to reduce the potential growth of tourism in Boston from the six percent expected nationwide to 3.3 percent.

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The City seeks to increase tourism by upgrading cultural and recreation attractions and by promoting the development and renovation of moderately-priced hotel rooms. Boston is also lobbying for state and federal funding to improve tourist and recreational facilities and to promote tourism in the City.



